

# SuIndiWeb: a web-based platform of sutte indicator to predicting movement of stock

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**ABSTRACT:** Technical Indicator is an approach to analyze the movement of stock. Are this stock will decrease or increase in future? One new indicator that has been developed is Sutte Indicator. Sutte Indicator is an indicator used in Technical Analysis of Stock Market. Sutte Indicator developed by Ansari Saleh Ahmar in December 2015. Sutte Indicator helps in the decision making process for stock investors when they can make a buy or sale of stocks. Sutte Indicator has been implemented in several stocks such as Apple Inc., XL Axiata Tbk and Smartfren Telecom Tbk. To view the reliability in the prediction of Sutte Indicator then it compared with others Technical Analysis that is Simple Moving Average (SMA) and Moving Average Convergence / Divergence (MACD). From the results of this comparison, Sutte Indicator is obtained that has a level of accuracy that is better than the SMA and MACD. To simplify the process of use of Sutte Indicator, then make a tools on Web-based platform and the named as **SuIndiWeb**. **SuIndiWeb** will be used in the process of predicting stock movements.

**Keywords :** sutte indicator, SuIndiWeb, web based, predicting, movement, stock.

## 1 INTRODUCTION

Stock trading in Indonesia is an activity that requires precision and foresight in seeing the stock movement. The movement of stock prices in the stock market is not volatile and are not bound by time, sometimes rising, sometimes down, and not infrequently also constant. The movement of stock is called the fluctuations. Stock trading is one of transaction that interesting by investors. As presented by Media Online Republika at 28 Oktober 2016 state that the Indonesia Stock Exchange (IDX) recorded the number of stock investors in Indonesia until February 2016 until 468 thousand people. This number increased by 8 percent if compared to the position at the end of 2015, with improved movement of Stock Price Index (IHSG) that ranks second in the world. To get the maximum profit in stock trading, then an investor must be predicting stock movements using technical analysis. In the movement of stocks, there are five main of components necessary to chart the movement of stocks can be formed. The five main of components, namely opening price, highest price, lowest price, closing price, and the volume of transactions (Ahmar 2015; Ahmar 2017). Technical analysis has been described by many researchers, including Stochastic, MACD and Bollinger bands (Nithya

& Thamizhchelvan 2014), Moving Avarage (Han et al. 2013), dan Relative Strength Index (RSI) (Abbey & Doukas 2012), and the latest technical analysis developed is Sutte Indicator (Ahmar 2015; Ahmar 2017).

The technical analysis have been used by Zhu and Zhou (2009) studied the usefulness of moving the average and McKenzie (2007) tested the rules of technical trading for 17 markets of selected developing countries and concluded that there was no systematic trading rules can generate sufficient forecasting accuracy.

Sutte Indicator is a technical analysis was developed by considering four main of components of the stock movements which are then illustrated in a graph stock movements. The formula of Sutte Indicators (Ahmar 2015; Ahmar 2017):

$$\text{SUTTE \%L} = \left( \frac{C_k + C_{k-1}}{2} \right) + C_k - L_k$$

$$\text{SUTTE \%H} = \left( \frac{C_k + C_{k-1}}{2} \right) + H_k - C_k$$

$$\text{SUTTE - PRED} = \frac{\text{SUTTE\%L} + \text{SUTTE\%H}}{2}$$

Where :

$C_k$  = closing price of stock at  $k^{th}$ -day  
 $C_{k-1}$  = closing price of stock at  $k-1^{th}$  day  
 $L_k$  = lowest price of stock at  $k^{th}$ -day  
 $H_k$  = highest price of stock at  $k^{th}$ -day  
SUTTE%L = limit of lowest prices of Sutte Indicator  
SUTTE%H = limit of highest price of Sutte Indicator  
Sutte-Pred = prediction price of stock using Sutte Indicator.

In order easy to use in the decision-making process, Sutte Indicator should be easily accessible and easy to use. This era, many users more frequently use the Internet as a media that is easily accessible. Based on the survey conducted by the Association of Indonesian Internet Network Operator (APJII) during the year 2016 said that 132,7 million people of Indonesia has been connected to the internet from a total population of 256.2 million people. Furthermore, Ahmar, Rusli, & Rahman (2016) adds that the technology is applied properly will reduce the pathways work process step procedure, which was performed manually will be replaced by the system. Beneficiaries of such technology is the basis for applied of management information system (MIS).

## 2 DESIGN OF SYSTEM

In general, the working of a web-based application can be seen in figure below.

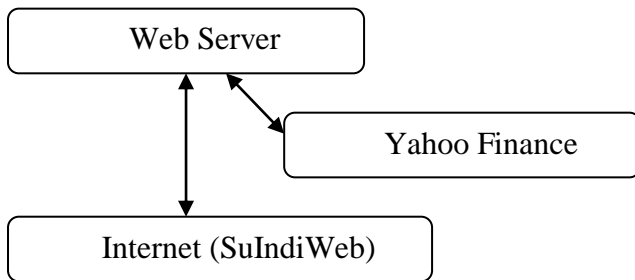


Figure 1. Worked Flow of SuIndiWeb.

From the figure above, we can see that stock price movements of SuIndiWeb by using Sutte Indicators can be done by using the internet by taking the stock price data from Yahoo Finance. Stock data that download is data about the opening price, the highest price, the lowest price, and the closing price which will be implemented into the formula Sutte Indicator.

SuIndiWeb developed using Web programming (Code Igniter) and MySQL database Ahmar, Rusli, & Rahman (2016). As for the graphics used Fusion Chart plugin for the web.

## 3 RESULT AND DISCUSSION

From the results of design that has been done, then the following results from database of SuIndiWeb.

Table 1. Stock table

field	type	length
id	int	11
date	varchar	200
open	double	0
high	double	0
low	double	0
close	double	0
volume	double	0
adjclose	double	0
label	varchar	200

Table stock created to save data results from Yahoo Finance and name of stock will be recorded in the field label.

Table 2. Sutte table

field	type	length
id	int	11
date	varchar	200
close	double	0
sutL	double	0
sutH	double	0
pred	double	0
label	varchar	200
label	varchar	200

Sutte table is used to store the results of data analysis using Sutte Indicator. From Sutte table, we make value of predicting and into a chart of stock movements.

In the trial stage, the stock used is Facebook Inc. The chart of this stock using a Web-based Sutte Indicator (SuIndiWeb) shown in the following figure.

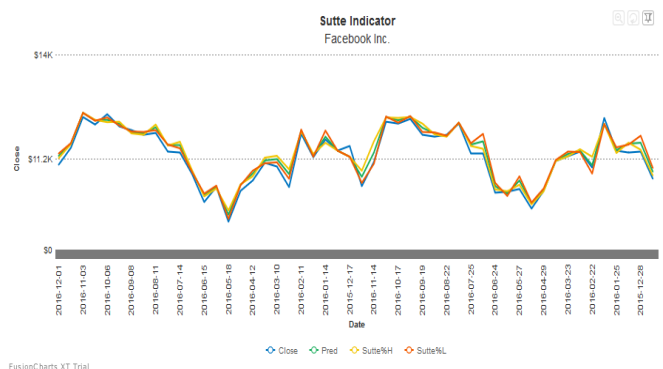


Figure 2. Graph of Facebook Inc. on SuIndiWeb.

SUTTE indicator also has three types of predictive, namely SUTTE%L, SUTTE%H, and SUTTE-Pred. These three indicators are supporting each other to provide a picture of the movement of stocks. In giving the movement image of stocks, SUTTE link between SUTTE%L and SUTTE%H. If the curve SUTTE%L is above of the curve SUTTE%H in a long period of time then it indicates that the stock price will increase and vice versa if the curve is SUTTE%H above of the curve SUTTE%L then the stock price will decline. Increases and decreases in stock prices is usually marked by the intersection of the curve SUTTE%L and SUTTE%H.

From Figure 2 above shows that SuIndiWeb are in accordance with the criteria established by Sutte Indicator this means that SuIndiWeb can be used as a tool to predict movement of stock price by using Sutte Indicator.

#### 4 CONCLUSION

Development of web-based decision-making is ideal to favor of making a decision. SuIndiWeb is a web-based decision-making system. SuIndiWeb is a tool used in predicting stock prices using Sutte Indicator.

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